Tribology of a Combined Yaw Bearing and Brake

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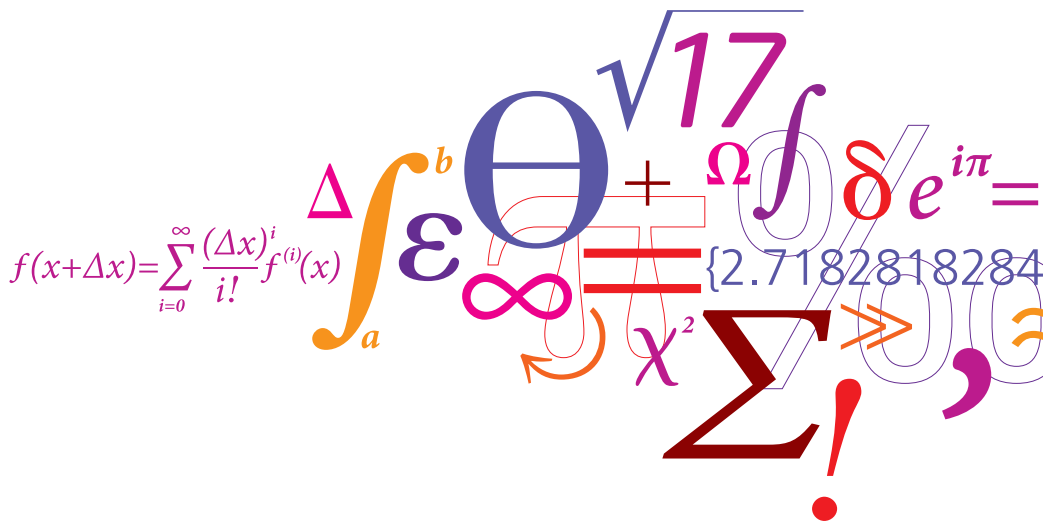
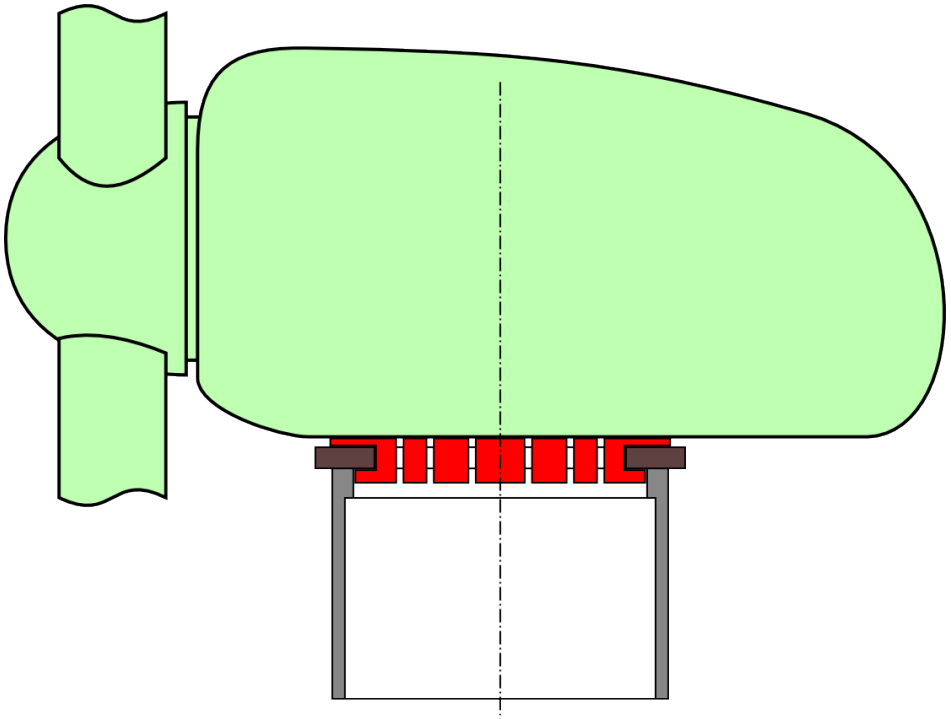
Solid Mechanics



DTU Mechanical Engineering
Department of Mechanical Engineering

Project Goals

Study of tribological aspects in a combined yaw bearing and brake system



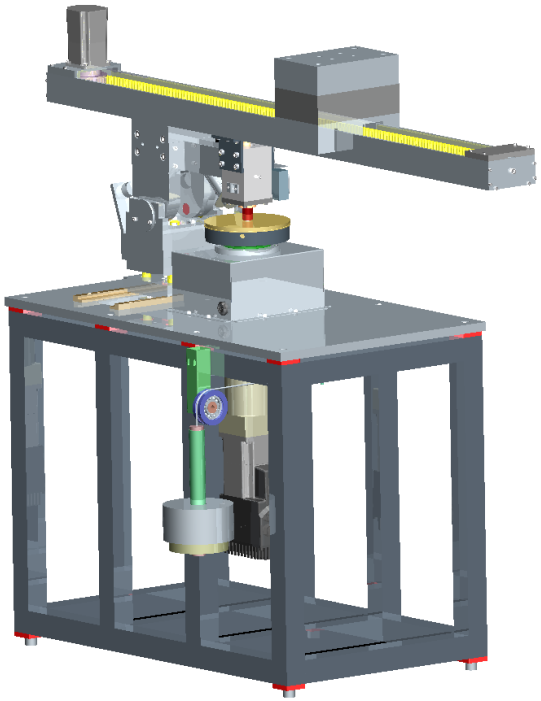
Project goals:

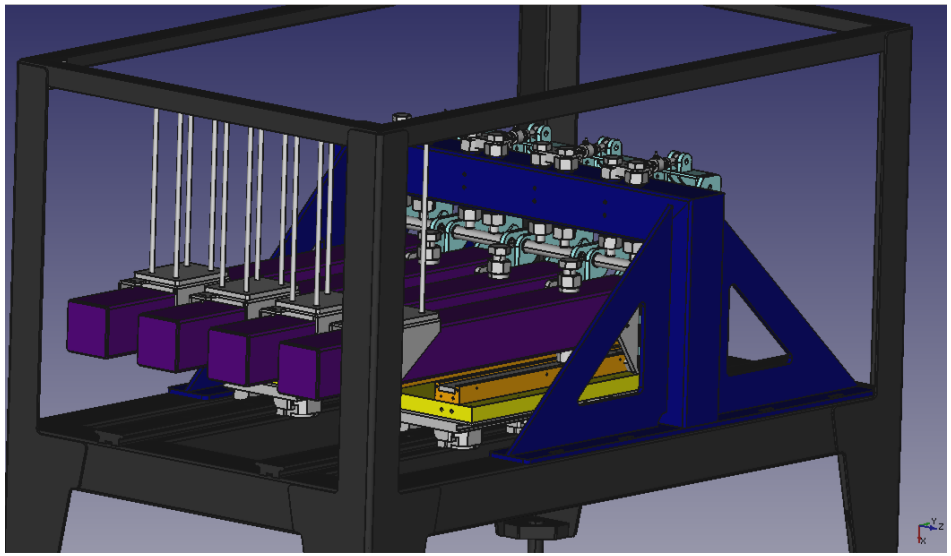
- Coefficient of friction
- Running-in
- Wear rate
- Noise generation

Tools - Methods:

- Experimental testing (pin-on-disc, pin-on-plate)
- FEM modeling (contact mechanics)

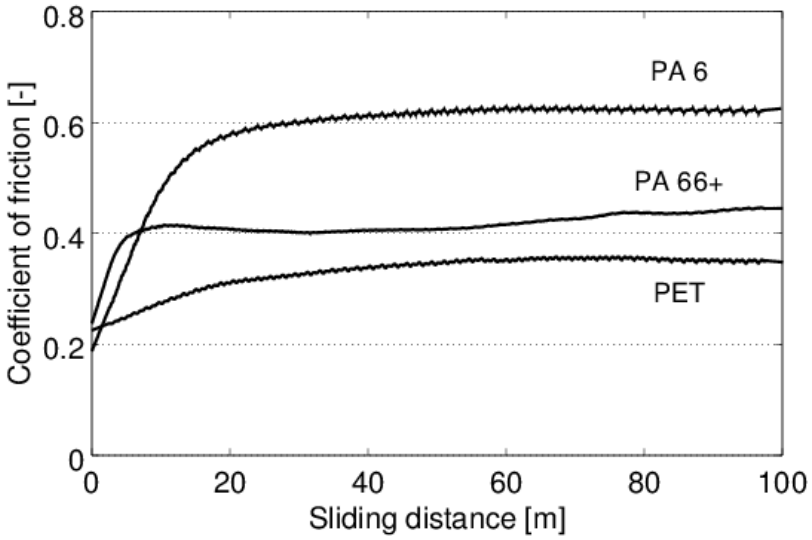
Experimental Testing

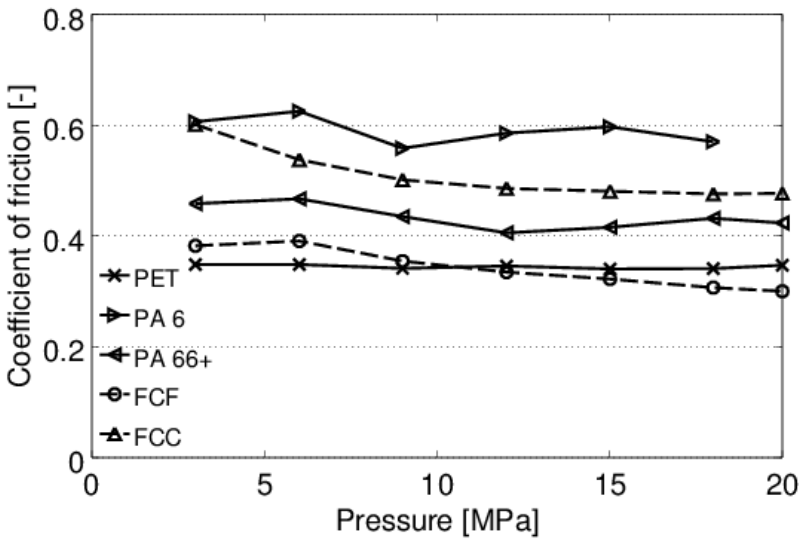


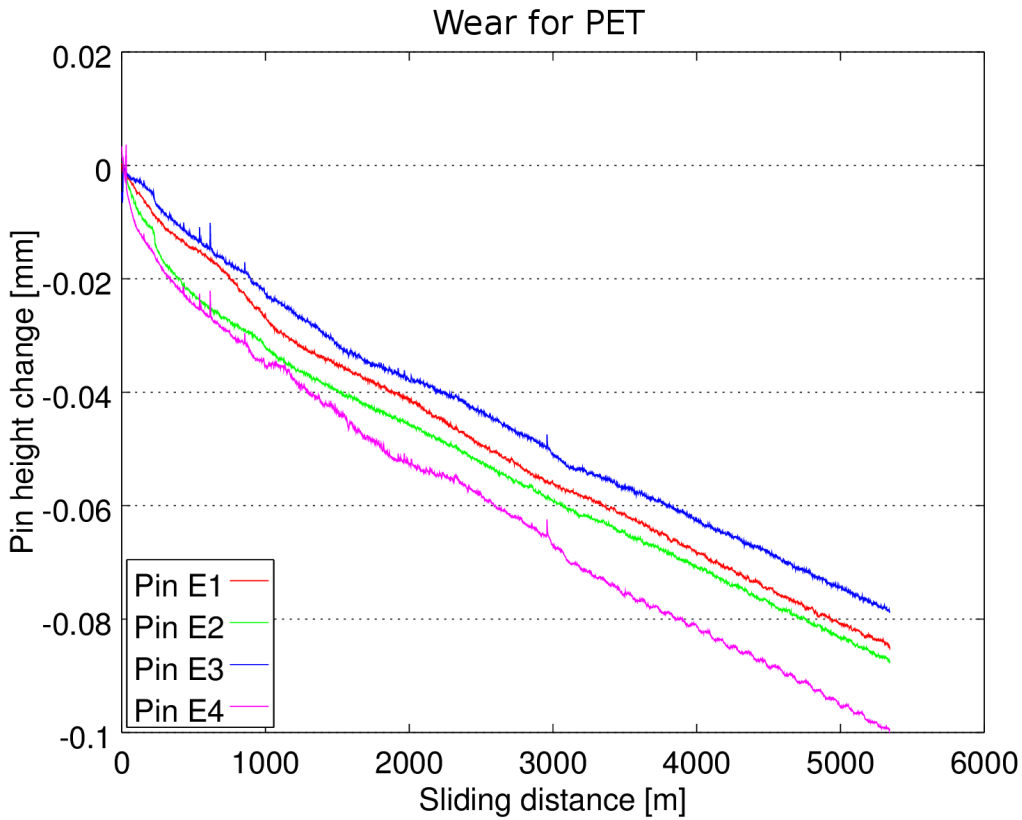


- Pin-on-disc and pin-on-plate test-rigs
- Friction, wear and break away testing at various pressure levels
- Fiber composites, thermoplastics, organic and sintered materials

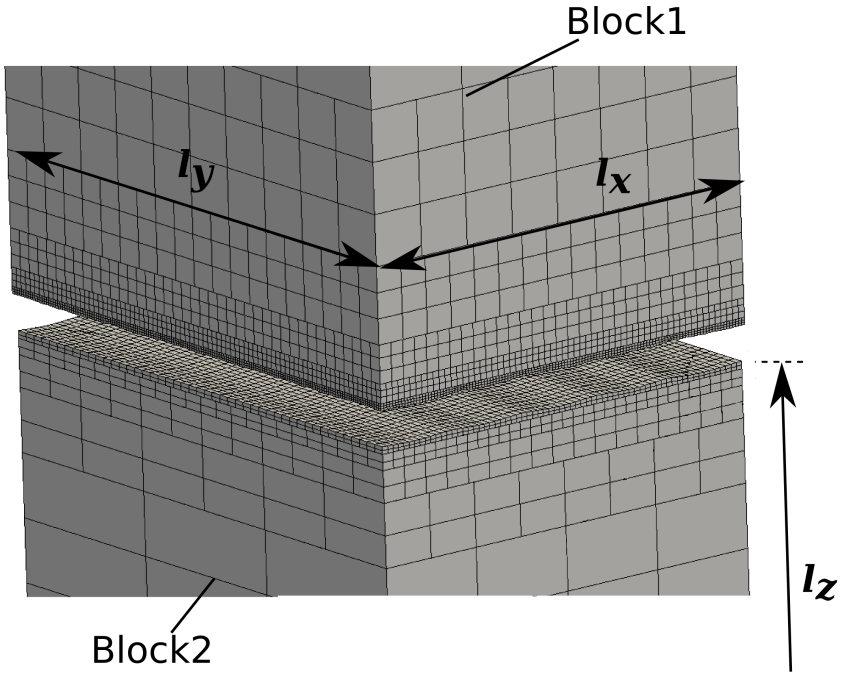
Experimental Testing

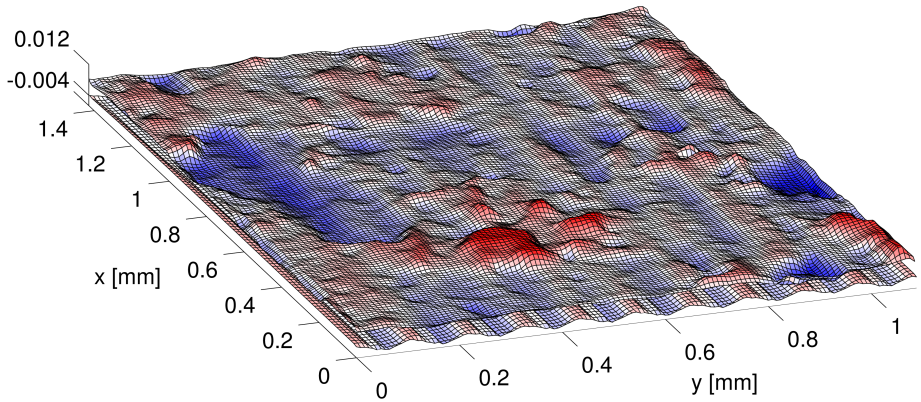


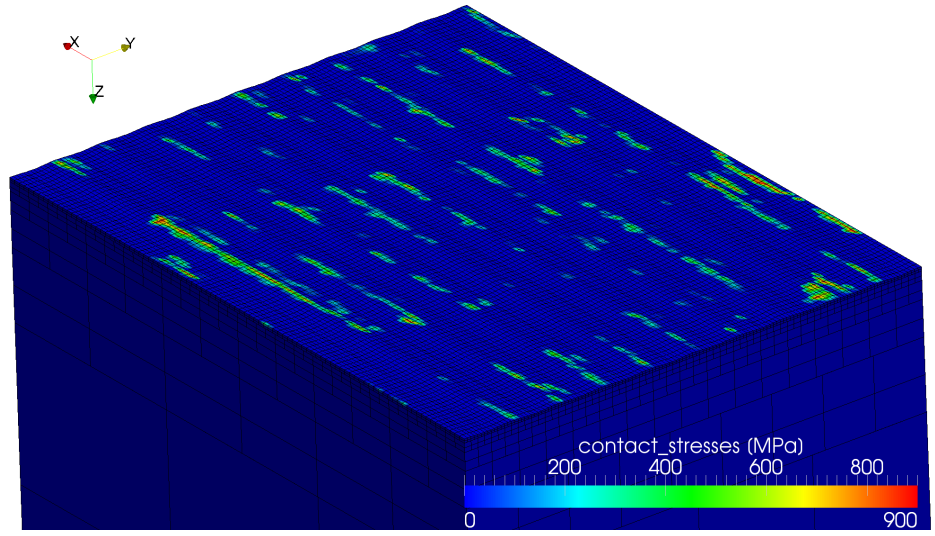




FEM Modeling - Micro-Contact







- Simulation of normal loading and sliding
- Measured surface topographies
- Calculation of real area of contact
- Material plasticity

Thank you for your attention!

Project members:

The Danish National Advanced Technology Foundation

SVENDBORG BRAKES

kirkholm maskiningeniører a/s